

## REMARKS

### Claim Amendments

Claim 20 has been amended and new Claims 39 and 40 have been added herein. Support for these amendments can be found throughout the specification, for example, at page 11, lines 25-28, page 12, lines 1-9 and in claims 20 and 21 as originally filed. No new matter has been added.

### Rejection of Claims 20-22 under 35 U.S.C. §112, Second Paragraph

Claims 20-22 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Office Action states that because the oligonucleotide includes a 3'-3' linker it is not clear how such an oligonucleotide can be complementary to a gene of HIV-1.

Applicants respectfully disagree. Although the introduction of a 3'-3' linker into an oligonucleotide does break up the continuous sequence of nucleotides in a 5'-3' direction, one skilled in the art would clearly appreciate that there would be a sequence of nucleotides in a 5'-3' direction on either side of the linker. It would be clear to one skilled in the art that, according to the claimed invention, neither sequence on the left nor right side of the 3'-3' linker would be complementary to the *gag* or *tat* gene of HIV-1. Reconsideration and withdrawal of the rejection is respectfully requested.

### Rejection of Claims 20-22 under 35 U.S.C. §103(a)

Claims 20-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chaix et al and US Patent 6028183 (hereinafter "Lin").

Applicants respectfully disagree. Chaix does not disclose the claim invention because Chaix fails to teach or suggest an immunostimulatory oligonucleotide compound comprising an immunostimulatory dinucleotide of formula CpG wherein C is a non-natural pyrimidine nucleoside and G is a natural or non-natural purine nucleoside or wherein C is a natural pyrimidine nucleoside and G is a non-natural purine nucleoside. Chaix only describes antisense compounds having a 3'-3' linkage that showed increased resistance against nuclease degradation. Lin fails to provide that which Chaix lacks. Lin only describes a small list of pyrimidine

derivatives and oligonucleotides containing these derivatives. Lin is silent with regards to the immunostimulatory properties of the immunostimulatory CpG dinucleotide, any modification thereto and whether any modification to the CpG would result in an oligonucleotide retaining its immunostimulatory properties. The improved therapeutic efficacy of antisense oligonucleotides as suggested by Lin is not germane to the modification of the CpG dinucleotide or its ability to stimulate the immune system.

One of ordinary skill in the art would have had no motivation to combine the descriptions in Chaix and Lin to arrive at the immunostimulatory oligonucleotide compounds of the instant claims with any reasonable expectation of success. Therefore, the instant claims are nonobvious over Chaix and Lin. Reconsideration and withdrawal of the rejection are respectfully requested.

#### Double Patenting

Claims 20-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over various claims of copending U.S. Application Nos. 11/174448; 11/234074; 11/234075; 11/174002; 11/173983; 11/173794; 11/174282; 11/173938; 11/174450; 11/270805; 10/279684 and 10/757345.

As stated by the Examiner, this is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. If this provisional double patenting rejection is the only remaining rejection in the application, Applicants request that the Examiner withdraw the rejection and allow the application to issue as a patent (See MPEP §804(I)(B)). Applicants will then consider filing a Terminal Disclaimer or take any other action deemed necessary in the later filed copending applications.

**CONCLUSION**

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

Dated: July 11, 2007

Keown & Zucchero, LLP  
500 West Cummings Park  
Suite 1200  
Woburn, MA 01801  
Telephone: 781/938-1805  
Facsimile: 781/938-4777

By: /Joseph C. Zucchero/

Joseph C. Zucchero  
Registration No. 55,762